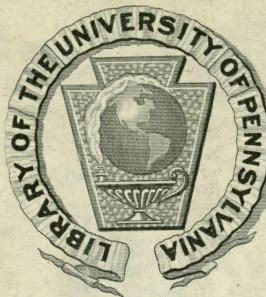


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THE WAR AND THE TREND OF NATIONAL VITALITY

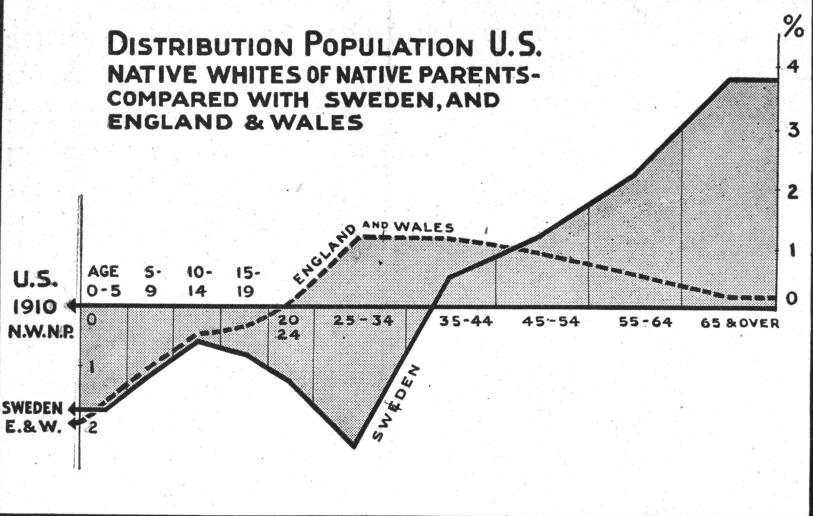
By *Mer Hsworth*
E. E. RITTENHOUSE, COMMISSIONER
" PUBLIC SERVICE AND CONSERVATION

THE EQUITABLE LIFE ASSURANCE SOCIETY
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THE WAR AND THE TREND OF NATIONAL VITALITY

BY E. E. RITTENHOUSE, COMMISSIONER
PUBLIC SERVICE AND CONSERVATION

THE EQUITABLE LIFE ASSURANCE SOCIETY
OF THE UNITED STATES

The nation has been taking stock of the physical condition of its young men. It has been separating the weak from the strong for purposes of national defense.

The result is amazing and disillusioning to those who have held to the pleasing fiction that we are rapidly developing an exceptionally vigorous and physically high-powered race.

The official discard of weaklings by the army examiners includes not only young men who are now actually disabled, but also those who have incipient defects which affect efficiency, or which will do so under the stress of war service.

The fact that we have such an enormous group of physically defective young men, chiefly victims of preventable, as well as curable afflictions, should be a matter of deep public concern, not merely because of our present loss from the military and economic viewpoint, but because of the adverse influence which these low-powered lives will have upon national vitality in this and in future generations.

A VAST ARMY IN THE DISCARD.

The report of the Surgeon General of the Navy for 1916 indicates that out of 106,392 applicants (under age 30) for the navy seventy per cent were rejected. The

same proportion of rejections were made in a body of over 3,400 boys applying for the Naval Academy. They came directly from our public schools and colleges and should have been in prime condition.

An official news item recently issued by the Government states that out of approximately 1,300,000 volunteers for the Army and Navy since war was declared, but 448,859 were found physically qualified—the rejection rate being sixty-six per cent.

In the preliminary medical examination of the conscripts of the first draft former physical requirements have evidently been relaxed. But if after the try-out at the training camps, the total rejections do not go above fifty per cent. we will be fortunate. This would indicate that we have about 5,000,000 men between age 21 and 31 who are physically unfit for military service.

The question as to what is to be done to repair and rebuild this vast accumulation of damaged human machinery has recently been brought to the attention of the country and of Congress.

But the still more vital question is, "What are we going to do as a nation to prevent the development of these avoidable physical impairments in the great body of youths who are now constantly entering this first decade of adult life and millions who will enter it hereafter?"

If it is worth while to take collective military action to preserve this nation, it would seem to be worth while to take collective educational action to conserve the vitality of the people who compose it.

We have at least 8,000,000 men of military age, above 31, who are physically disqualified for efficient military service, but many of these have stood the stress of the greater part of the productive period of life, whereas the great host of low-powered young men whom we are

now discussing live in the period of man's greatest physical strength and resisting power to the strain and hazards of life.

It neither solves nor lessens the problem to assert that it might be worse, or that it was formerly worse, or that the situation may be worse in certain other countries.

A PROBLEM OF RACE PROTECTION.

The physical condition of this great body of substandard lives will not improve without assistance. On the contrary it will grow worse. Human machinery already impaired or working in impaired bodies in these early ages will naturally be the first to break down under the stress and strain of life. Such defectives become easy and early victims of both the communicable and the organic diseases.

It is difficult to impress the individual with the warning that the trivial health impairment of to-day is the serious affliction of to-morrow, but our nation's collective intelligence should be able to grasp and act upon this fact in the interests of race protection.

This is our task wholly regardless of whether or not our national vitality is gaining or declining, or whether it is above or below that of other countries.

It happens, however, that the importance of this problem of race protection is strongly emphasized by the signs found in the mortality records of our declining power to resist the organic diseases due to the degeneration or wearing out of the heart, kidneys and other hard worked organs of the body.

MISTAKING "LOOKS" FOR FITNESS.

The seriousness and magnitude of the apparent decline in national vitality should neither be exaggerated nor minimized, but faced squarely. It should be approached in a constructive, helpful spirit.

Nor must we permit our native optimism or our pride

of race or of personal opinion to warp our judgment in considering these present signs of the downward trend of national vitality. Optimism, like pessimism, untempered with respect for facts, is a sure guide to trouble.

It is naturally our habit to associate a person of good color and physique with thoughts of sound health and long life, because his physical defects are not in evidence. The vast majority of the 850,000 volunteers recently rejected by the Government were of this healthy-looking type. And virtually all of the multitude of people annually rejected for life insurance belong to this same strong healthy-*looking* class.

The average person so often sees children and young people engaged in athletic exercises, he sees so many people interested in baseball and other sports, and observes such a gain in the popularity of tennis and golf, that he concludes that the American people must certainly be gaining in physical development and power.

He has overlooked the fact that our population has increased at an extraordinary rate and that the combined number of children and adults who actually take physical exercise to develop or protect the health is but a microscopic fraction of the mighty total of our people who ignore this need. It is a comforting thing to know that the number in this fraction may be increasing, for we must remember that for every individual who adopts a physically active life, perhaps thousands drift into inactive and sedentary occupations and habits as a natural consequence of our marvelous increase in wealth and labor and time-saving inventions. This is true of industrial workers as well as of other elements of our population.

ASCERTAINING THE TREND.

Many people make **the** mistake of believing that they may judge correctly of the trend of the physical endurance of the nation in its battle with the hazards of life by per-

sonal observation in their own narrow environment. Our more than one hundred millions of people are too widely scattered and diversified as to race stock and living conditions to make such superficial judgments of value.

Our mortality records do not cover the entire country and naturally they are not as mathematically accurate as they should be. Yet these inaccuracies are of little or no importance so far as obscuring the general trend of the death rate, in a large body of people, is concerned. Any sound judgment as to the vitality trend of the nation must be based upon our mortality data, and for this purpose these records are of very great value, notwithstanding the contempt with which we have been taught to regard them by certain "experts" and others whose preconceived notions they may have disturbed.

The need of giving more than superficial thought to this subject is strikingly illustrated by the erroneous conclusions which have been drawn from the well-known fact that our general death rate (all causes and ages combined) has declined for many years.

This declining death rate has naturally conveyed the idea to many people that the extreme span of life is being extended and that the vital force of our people, that is, their physical power to endure the stress of life and to resist disease, is increasing.

WHAT THE RECORDS SHOW.

A brief study of the death rates separated into age periods and by causes of death show clearly that these conclusions are wrong.

Among the information supplied by the mortality records, as far back as reasonably reliable comparisons can be made, is the following:

1. The general death rate (the number of deaths

per 1,000 living) has apparently decreased *only* up to the age group 45-50 and *increased* beyond that point.

2. The average duration of life (or years lived) of the total population has increased not because people live longer after passing middle life, but because of the great saving of lives in infancy and the early age periods.

3. The decrease in the death rate in the younger ages is due not to an increase in the power of the blood and organs to resist disease, but almost wholly to the fact that we have learned how to *avoid* and to treat certain poisons, namely, germ diseases—typhoid fever, tuberculosis, diphtheria, etc.

4. The increase in the death rate commencing about 45-50 is apparently due to the marked increase in mortality from diseases of the heart, kidneys and other important organs, which indicates a decline in vitality.

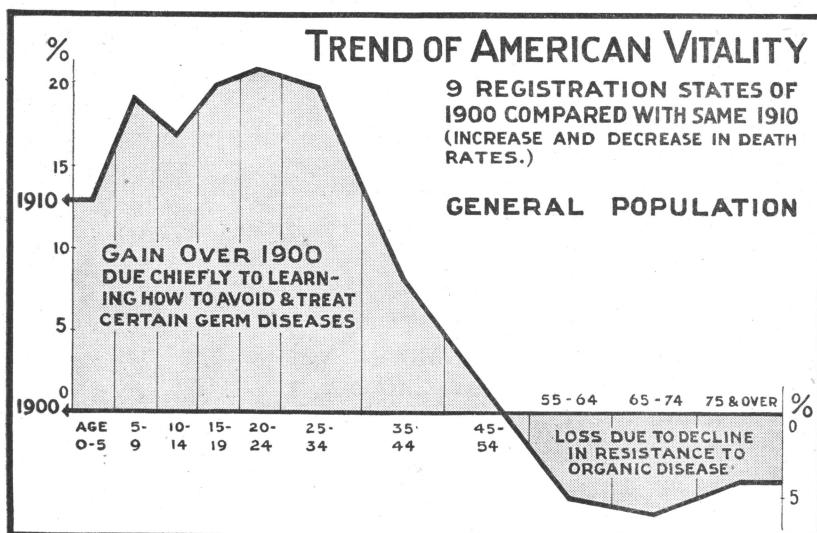
5. While the death rate has increased in the United States *only* in the first four decades of life, it has decreased in England and Wales and most European countries at *all* ages, old and young. This disposes of the theory which occurs to so many that the increase of the death rate in our older age periods is due to the saving of lives in the early age groups.*

6. The presence of a large number of adult immigrants in our population can account for but a very slight portion of the increase in the death rate from degenerative diseases and for the increase in the general death rate above age 45-50. This is demonstrated by the fact that the general death rate in our native white population

*NOTE: It must be remembered that we are dealing with death *rates*, that is, the number of deaths per 1,000 people living. The number 1,000 is *stationary*. The addition of more people, say, in the age group 55, makes more 1,000s, not more *per* 1,000. Therefore, increasing the number of old people will not affect the death *rate* unless their vitality is considerably lower or higher than that of those whom they replace in the 1,000.

of native parents shows virtually the same downward trend of the vitality curve as it does in the *total* population. (See charts nine registration states.)

7. Between the last two census years, 1900-1910, the death rate from the group of most important organic diseases of the degenerative class in the population above age 30 increased 28% while the increase of the proportion of foreign and negro population combined was but 2.6% in that group.



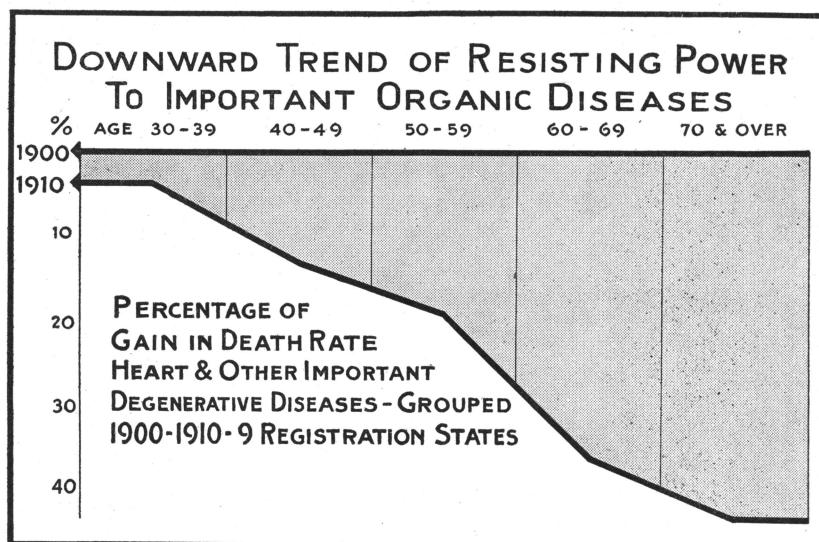
COMPARED WITH 1880.

Comparing the two registration states (Massachusetts and New Jersey) and several large cities of 1880 with the same states and cities for 1910, we find a marked increase in the degenerative group death rate and in the general death rate above age group 40-45.

Any improvement in diagnosis, and in reporting of deaths and changes in cause classification occurring since 1880 in this area, have not been sufficient to materially

change the general downward trend of the vitality curve. This is demonstrated by comparing succeeding census years and quinquennial periods.

For illustration we will take the record of the nine registration states* for 1900 and compare them with the same record for 1910. (A more recent year is not used here because of the necessity of estimating the population under unusual conditions). In this period we have al-



ready had the advantages of any improvements in reporting and classifying statistics which have been made since 1880. During these ten years no changes have been made that would affect the general trend.

We are not undertaking to arbitrarily establish or to insist upon any hard and fast percentage of increase or decrease at any age period. We are simply concerned with the message of these mortality records as they indicate

*Mass., N. J., N. Y., N. H., R. I., Conn., Me., Mich., Vt.

the *trend or drift* of the power of the body and the organs to withstand the stress of modern life. And the record is clearly against us.

STILL DOWNWARD IN 1910.

In the important organic or degenerative disease group are included deaths due to diseases of the heart, arteries, kidneys, liver, and from paralysis, cerebral hemorrhage, diabetes, dropsy, mental diseases, etc. There have been no changes in method or classification during this ten year period that would make more than a fractional change in the total of this group.

The per cent. of increase in the death rate age 30 and over from this degenerative disease group, 1900-1910, in the nine registration states of 1900, was as follows:

<i>Age Periods.</i>	<i>Increase.</i>
30-39	4%
40-49	13%
50-59	19%
60-69	36%
70 and over	42%

The age distribution of our white stationary population, that is, native whites of native parents, corresponds rather closely to the distribution, by ages, of the population in England and Wales (1901), which is sometimes used for standardization purposes.

However, the proportion of people in middle life and beyond, in that country and in Germany, exceeds that of the United States, and this excess of older people is very marked in Sweden and France (see chart).

In order to eliminate any adverse influence our foreign

immigration may have had upon the death rate of native or stationary population, and also that this population may be freed from the abnormal mortality rate among negroes, the comparison of the last two census years is made to include *only* native whites of native parents, which shows the trend in the total population in the nine registration states under consideration.

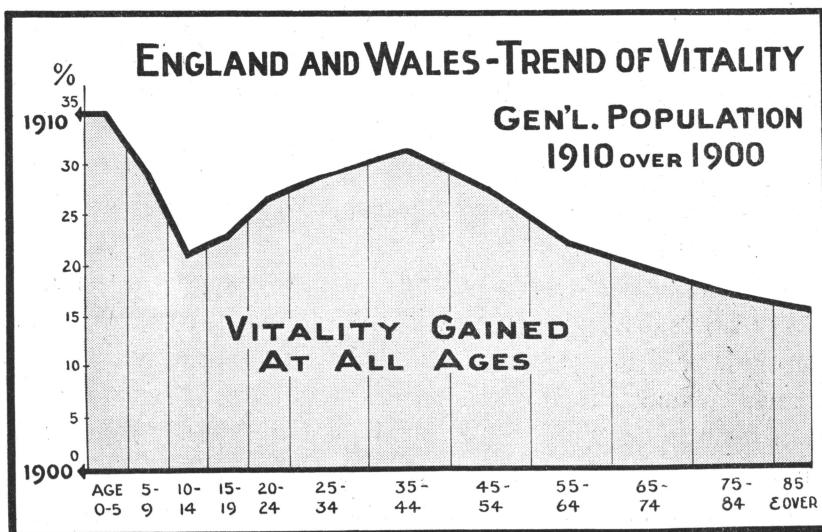
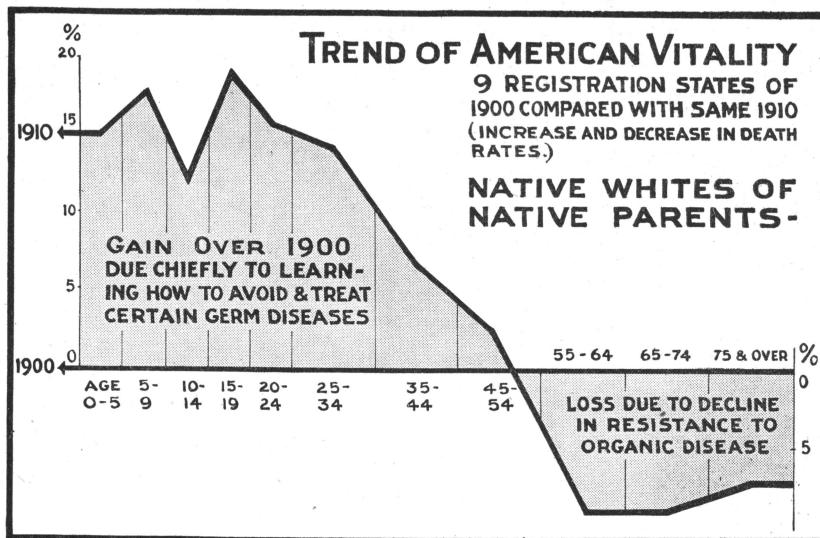
NATIVE WHITES OF NATIVE PARENTS.

PER CENT. OF INCREASE AND DECREASE IN DEATH RATE 1900-1910.

Age Periods.	Nine Reg'n. States		England & Wales Decrease.
	Decrease	Increase	
Under 5	15%		35%
5-9	18%		29%
10-14	12%		21%
15-19	19%		23%
20-24	16%		26%
25-34	14%		29%
35-44	7%		31%
45-54	2%		27%
55-64		9%	22%
65-74		9%	19%
75 and over		7%	17%

We find that the vitality curve of both the native and general population, which, if it followed the trend in England and Wales, would continue across the chart showing a gain at *every* age period, suddenly drops in age group 25-44 and soon changes from a gain to a loss and con-

tinues so thereafter. The important fact, which these figures demonstrate, is that the *general* downward trend



of national vitality, indicated by the 1880 comparison, continues in the 1900 comparison with 1910.

Ten years is but a mere atom of time in the age of a

nation, and it may seem that our population is so great that we can afford the premature loss of lives indicated in this ten year period. But in 30 or 50 years, or a century, the present indicated decline in our national vitality would mean an enormous loss to the nation.

Assuming that we can spare these lives because of the rapid increase in our population, the great problem is, "Can our civilization afford the loss in national efficiency, and the race degeneracy, which would result from ignoring in our population this excessive and constantly increasing group of physically low-powered people?"

EFFECT OF THE WAR.

We may make due allowance for the young men who will be physically improved by their army experience and still realize that the general effect of the war upon the vital strength of the present generation and of posterity will be far from favorable.

The war, if it continues, will greatly increase our vast army of physically impaired men. The additions will consist of a group of maimed, crippled and nerve shattered men and another still larger group who will have their "constitutions", and resisting power to fatigue and disease, permanently weakened by the terrible stress of the battle front.

And to these must be added a very considerable number of people at home who will suffer from the speeding up process and the excesses due to the high pressure of the times. American life strain—the tendency to overtax the body and its machinery, especially the nervous system, has never been greater than at the present time.

The easiest way for the individual to dispose of an unpleasant problem of this sort is to say that it is not so and forget about it. But the nation will sooner or later be forced to treat it seriously.

To disregard the lesson of the army rejections and

the indicated decline in national vitality shown by the records would be the height of folly.

If we are as intelligent, as progressive, as scientific, and as highly civilized as we think we are, even a hint or slight sign—not to mention our specific evidence of race deterioration—should inspire prompt action by the nation.

We must teach our children, our youths and, as far as possible, our adult population, how to live right, how to keep the body and its organs in good healthy condition. We must not only teach them sanitation, personal hygiene and the need of observing the common laws of health; the safety of the state and the race demands that we actually stimulate them to apply this knowledge.

There is no limit to the progressive and constructive possibilities of the American people. They can and will solve this problem if it is kept before them until they are aroused to action.

September, 1917.

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